

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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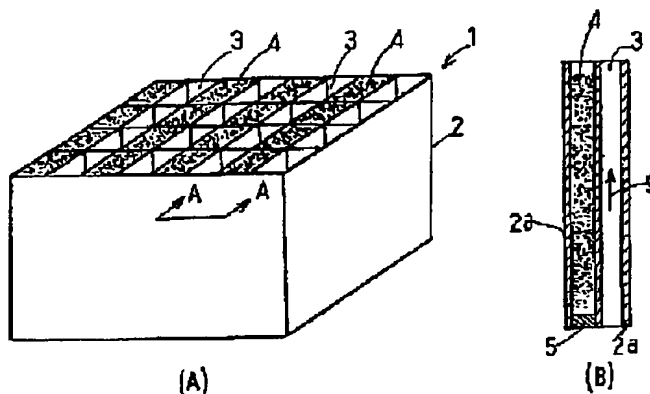
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TITLE : HEAT STORAGE HEAT EXCHANGER



**ABSTRACT :** PROBLEM TO BE SOLVED: To facilitate manufacture while reducing the cost and to increase heat storage per unit volume while suppressing fluctuation in the heating temperature of a fluid to be heated by providing every other channel of a ceramic honeycomb arranged in vertical direction.

**SOLUTION:** A heat storage body 1 is a honeycomb 2 made of ceramic, e.g. alumina, having a large number of square channels 3 defined by ceramic walls 2a. The honeycomb 2 is disposed with the channel 3 directing in the vertical direction and every other channel 3 is filled with a substance 4 changing phase between solid and liquid depending on the working temperature. Since a fluid channel 3 is adjacent to a part filled with the phase changing substance 4 in the honeycomb 2, heat transfer takes place between the substance 4 and air flow 9 when it is fed through the channel 3. When the heat storage body 1 is heated, the substance 4 makes a transition from solid phase to liquid phase and stores a significant quantity of thermal energy in the form of latent heat in the heat storage body 1 through phase change.

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